

Amendment under 37 CFR §1.111  
Application No. 10/505,219  
Attorney Docket No. 042112

## **REMARKS**

### **Allowable Claims**

Applicants gratefully acknowledge that claims 1-7 and 10 are allowed.

### **Claim Objections**

**Claims 11 was objected to because of the informalities.**

Claim 11 has been cancelled hereby. Thus, the objection has become moot.

### **Rejections under 35 USC §112, Second Paragraph**

**Claim 11 was rejected under 35 USC §112, second paragraph, as being indefinite.**

Claim 11 has been hereby cancelled. Thus, the rejection has become moot.

### **Rejections under 35 USC §102(b)**

**Claims 8, 9 and 11 were rejected under 35 USC §102(b) as being anticipated by Takano (Journal of Alloys and Compounds).**

Claims 8, 9 and 11 have been cancelled hereby. Thus, the rejection has become moot.

**Claim 11 was rejected under 35 USC §102(b) as being anticipated by Tauber (U.S. Patent No. 6,275,716).**

Claim 11 has been hereby cancelled. Thus, the rejection has become moot.

### New Claims

Claims 12-14 have been added hereby. Claims 12 has been supported in the specification at page 9, lines 18-24. Claims 13 has been supported in the specification at page 9, lines 25 to page 10, line 3. Claims 14 has been supported in the specification at page 8, lines 3-10. These claims are compared with the existing claims as follows:

12. (compared with claim 1): A method of producing an  ~~$\text{LnCuOX}$~~   $\text{Ln}_{1-y}\text{M}_y\text{CuOX}$  single-crystal thin film, wherein Ln is at least one selected from the group consisting of lanthanide elements and yttrium,  $0 < y < 1$ , and M is at least one selected from the group consisting of Mg, Ca, Sr, Ba and Zn and X is at least one selected from the group consisting of S, Se and Te, said method comprising the steps of:

growing a base thin film on a single-crystal substrate;  
depositing an amorphous or polycrystalline  ~~$\text{LnCuOX}$~~   $\text{Ln}_{1-y}\text{M}_y\text{CuOX}$  thin film on said base thin film to form a laminated film;  
enclosing said laminated film in a closed vacuum environment,  
and  
then annealing said laminated film at a high temperature of 500°C or more in said vacuum environment.

13. (compared with allowed claim 10): A method of producing a single-crystal  $\text{LnCuOX}_{1-x}\text{X}'_x$  or  $\text{Ln}_{1-y}\text{M}_y\text{CuOX}_{1-x}\text{X}'_x$  solid-solution thin film, wherein  $0 < y < 1$ ,  $0 < x < 1$ ; Ln is at least one selected from the group consisting of lanthanide elements and yttrium; M is at least one selected from the group consisting of Mg, Ca, Sr, Ba and Zn and each of X and X' is at least one selected from the group consisting of S, Se and Te, wherein X and X' are different elements, said method comprising the steps of:

preparing a substrate consisting of the  $\text{LnCuOX}$  single-crystal thin film or the  $\text{Ln}_{1-y}\text{M}_y\text{CuOX}$  single-crystal thin film;  
depositing an  ~~$\text{LnCuOX}'$~~   $\text{LnCuOX}_{1-x}\text{X}'_x$  or  ~~$\text{Ln}_{1-y}\text{M}_y\text{CuOX}'$~~   $\text{Ln}_{1-y}\text{M}_y\text{CuOX}_{1-x}\text{X}'_x$  thin film on said substrate to form a laminated film;  
enclosing said laminated film in a vacuum chamber, and  
then annealing said laminated film at a high temperature of 500°C or more in said vacuum environment.

14. (compared with claim 1): A method of producing an ~~LnCuOX~~ LnCuOX<sub>1-x</sub>X'<sub>x</sub> single-crystal solid solution thin film, wherein  $0 < x < 1$ , Ln is at least one selected from the group consisting of lanthanide elements and yttrium, and X and X' is at least one selected from the group consisting of S, Se and Te, wherein X and X' are different elements, said method comprising the steps of:

growing a base thin film on a single-crystal substrate;  
depositing an amorphous or polycrystalline ~~LnCuOX~~ LnCuOX<sub>1-x</sub>X'<sub>x</sub> solid solution thin film on said base thin film to form a laminated film;  
enclosing said laminated film in a closed vacuum environment,  
and  
then annealing said laminated film at a high temperature of 500°C or more in said vacuum environment.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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